

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA**

IN RE: AQUEOUS FILM-FORMING FOAMS PRODUCTS
LIABILITY LITIGATION

MDL No.
2:18-mn-2873-RMG

THE BOARD OF COUNTY COMMISSIONERS OF
BOULDER COUNTY,

Plaintiff,

- vs -

THE 3M COMPANY, f/k/a Minnesota Mining and
Manufacturing Co., AGC CHEMICALS AMERICAS INC.,
AMEREX CORPORATION, ARKEMA INC.,
ARCHROMA U.S. INC., BASF CORPORATION,
individually and as successor in interest to Ciba Inc.,
BUCKEYE FIRE EQUIPMENT COMPANY, CARRIER
FIRE & SECURITY AMERICAS CORPORATION, f/k/a
UTC Fire & Security Americas Corporation, CARRIER
FIRE & SECURITY CORPORATION, f/k/a UTC Fire &
Security Corporation, CARRIER GLOBAL
CORPORATION, CHEMDESIGN PRODUCTS INC.,
CHEMGUARD INC. CHEMICALS, INC., CLARIANT
CORPORATION, individually and as successor in interest to
Sandoz Chemical Corporation, CORTEVA, INC.,
individually and as successor in interest to DuPont Chemical
Solutions Enterprise, DEEPWATER CHEMICALS, INC.,
DUPONT DE NEMOURS INC., individually and as
successor in interest to DuPont Chemical Solutions
Enterprise, DYNAX CORPORATION, E. I. DU PONT DE
NEMOURS AND COMPANY, individually and as
successor in interest to DuPont Chemical Solutions
Enterprise, NATION FORD CHEMICAL COMPANY,
NATIONAL FOAM, INC., THE CHEMOURS COMPANY,
individually and as successor in interest to DuPont Chemical
Solutions Enterprise, THE CHEMOURS COMPANY FC,
LLC, individually and as successor in interest to DuPont
Chemical Solutions Enterprise, TYCO FIRE PRODUCTS,
LP, individually and as successor in interest to The Ansul
Company, and JOHN DOE DEFENDANTS 1-20,

Defendants.

2:23-cv-02386-RMG

COMPLAINT

Jury Trial Demanded

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COMPLAINT

Plaintiff the Board of County Commissioners of the Count of Boulder (“Plaintiff” or “Boulder County” or “County”), by and through its undersigned counsel, hereby files this Complaint against Defendants 3M Company, f/k/a Minnesota Mining and Manufacturing Co., AGC Chemicals Americas Inc., Amerex Corporation, Arkema Inc., Archroma U.S. Inc., BASF Corporation, Buckeye Fire Equipment Company, Carrier Fire & Security Americas Corporation, Carrier Fire & Security Corporation, Carrier Global Corporation, ChemDesign Products Inc., CHEMGUARD Inc., Chemicals, Inc., Clariant Corporation, Corteva, Inc., Deepwater Chemicals, Inc., DuPont de Nemours Inc., DYNAX Corporation, E. I. du Pont de Nemours and Company, Nation Ford Chemical Company, National Foam, Inc., The Chemours Company, The Chemours Company FC, LLC, and Tyco Fire Products, LP, and Doe Defendants 1-20, fictitious names whose present identifies are unknown (collectively “Defendants”) and alleges, upon information and belief, as follows:

I. INTRODUCTION

1. Per- and polyfluoroalkyl substances (collectively, “PFAS”) are a class of highly toxic “forever” chemicals that persist in the environment indefinitely. These chemicals are human-made and do not occur naturally in the environment. PFAS are dangerous to human health and the environment even at fleetingly low levels. Because these compounds bio-accumulate and bio-magnify in human and animal tissues, there may be no safe level of exposure to PFAS. PFAS exposure interferes with human immune system functioning, disrupts mammalian reproductive and endocrine systems, and is associated with increased risks of kidney and testicular cancer. In addition to being highly toxic, these “forever chemicals” are highly mobile. When they enter the environment, they travel through soil and eventually work their way into groundwater.

2. Two of the most commonly used PFAS are perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS). For many decades, PFOA was used in the manufacturing of DuPont's non-stick coating, Teflon. Another common use of both PFOA and PFOS is as a component of a fire-suppressant material called aqueous film-forming foam ("AFFF").

3. AFFF is used in training and firefighting activities for fighting liquid-based fires, including those involving jet fuel, gasoline, or other fuels. The Federal Aviation Administration ("FAA") requires AFFF to be used at commercial airports. When used in firefighting training, emergency response activities, and federally mandated testing of firefighting equipment, AFFF is sprayed over structures and onto the ground. In other words, AFFF directly enters the environment from its intended use.

4. Like fluorine-free firefighting foam, AFFF contains water, solvents, and hydrocarbon surfactants. Unlike fluorine-free firefighting foam, however, AFFF also contains fluorosurfactants. A surfactant is a chemical compound that acts to break up the surface tension between two materials; in the context of firefighting foam, surfactants allow the foam to spread over the material fueling the fire, thus blanketing and extinguishing the fire. A fluorosurfactant is a surfactant that contains a perfluoroalkyl group (i.e., PFAS).

5. At various times from the 1950s through today, Defendants designed, manufactured, marketed, distributed, and/or sold AFFF products containing PFOS, PFOA, and/or their chemical precursors, and/or designed, manufactured, marketed, distributed, and/or sold the fluorosurfactants and/or poly- and perfluorinated chemicals contained in AFFF (collectively, "AFFF/Component Products").

6. Defendants designed, manufactured, marketed, distributed, and/or sold AFFF/Component Products despite knowing that PFAS are toxic, persist indefinitely, and would

be routinely released into the environment during firefighting training and emergency response activities, even when used as directed and intended by Defendants.

7. Like numerous other communities across the country, Boulder County is now facing the problem of pervasive PFAS contamination from AFFF use. Defendants, with their extensive knowledge of the properties and risks of PFAS, had all of the information necessary to know that their products would contaminate the environment. PFAS cleanup is difficult, expensive, and will take years to complete. Defendants, who continued to manufacture and sell these chemicals for decades despite their knowledge, should pay to help clean up the mess that they created.

II. JURISDICTION AND VENUE

8. This Court has subject matter jurisdiction over the Defendants pursuant to 28 U.S.C. §1332(a), in that this action seeks monetary relief in excess of the sum or value of \$75,000, exclusive of interest, and there is complete diversity between the parties.

9. Pursuant to this Court's Case Management Order No. 3 ("CMO 3"), this Complaint is filed as an original action in the United States District Court for the District of South Carolina.

10. But for CMO 3, Plaintiff would have filed this Complaint in the United States District Court for the District of Colorado. In accordance with CMO 3, Plaintiff designates as Plaintiff's Home Venue the United States District Court for the District of Colorado, being the proper venue of origin where the Plaintiff's claims could otherwise have been brought pursuant to 28 U.S.C. § 1391.

11. Venue is proper in the United States District Court for the District of Colorado because it is the judicial district in which Plaintiff is a resident, in which the property that is the subject of Plaintiff's claims is situated, and where a substantial part of the events or omissions giving rise to Plaintiff's claims occurred.

12. This Court has personal jurisdiction over Defendants by virtue of each Defendants' regular and systematic contacts with Colorado, including, among other things, purposefully marketing, selling and/or distributing their AFFF/Component Products to and within Colorado, and because they have the requisite minimum contacts with Colorado necessary to constitutionally permit the Court to exercise jurisdiction over them consistent with traditional notions of fair play and substantial justice.

III. PARTIES

A. Plaintiff

13. Plaintiff the Board of County Commissioners of the County of Boulder, ("Plaintiff" or "Boulder County" or "County") is a Colorado County organized and existing under the laws of the State of Colorado.

B. Defendants

14. The term "Defendants" refers to all Defendants named herein jointly and severally.

1. The AFFF Defendants

15. The term "AFFF Defendants" refers collectively to Defendants 3M Company, Amerex Corporation, Buckeye Fire Equipment Company, Carrier Fire & Security Americas Corporation, Carrier Fire & Security Corporation, Carrier Global Corporation, Chemguard Inc., National Foam, Inc., and Tyco Fire Products L.P.

16. **Defendant The 3M Company f/k/a Minnesota Mining and Manufacturing Co. ("3M")** is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business located at 3M Center, St. Paul, Minnesota 55144-1000.

17. Beginning before 1970 and until at least 2002, 3M designed, manufactured, marketed, distributed, and sold AFFF containing PFAS, including but not limited to PFOA and PFOS.

18. **Defendant Amerex Corporation (“Amerex”)** is a corporation organized and existing under the laws of the State of Alabama, with its principal place of business located at 7595 Gadsden Highway, Trussville, AL 35173.

19. Amerex is a manufacturer of firefighting products. Beginning in 1971, it was a manufacturer of hand portable and wheeled extinguishers for commercial and industrial applications.

20. In 2011, Amerex acquired Solberg Scandinavian AS, one of the largest manufacturers of AFFF products in Europe.

21. On information and belief, beginning in 2011, Amerex designed, manufactured, marketed, distributed, and sold AFFF containing PFAS, including but not limited to PFOA and PFOS.

22. **Defendant Tyco Fire Products LP (“Tyco”)** is a limited partnership organized under the laws of the State of Delaware, with its principal place of business located at One Stanton Street, Marinette, Wisconsin 54143-2542.

23. Tyco is the successor in interest of The Ansul Company (“Ansul”), having acquired Ansul in 1990.

24. Beginning in or around 1975, Ansul designed, manufactured, marketed, distributed, and sold AFFF containing PFAS, including but not limited to PFOA and PFOS.

25. After Tyco acquired Ansul in 1990, Tyco/Ansul continued to design, manufacture, market, distribute, and sell AFFF products containing PFAS, including but not limited to PFOA and PFOS.

26. **Defendant Chemguard, Inc. (“Chemguard”)** is a corporation organized under the laws of the State of Texas, with its principal place of business located at One Stanton Street, Marinette, Wisconsin 54143.

27. On information and belief, Chemguard designed, manufactured, marketed, distributed, and sold AFFF products containing PFAS, including but not limited to PFOA and PFOS.

28. On information and belief, Chemguard was acquired by Tyco International Ltd. in 2011.

29. **Defendant Buckeye Fire Equipment Company (“Buckeye”)** is a corporation organized under the laws of the State of Ohio, with its principal place of business located at 110 Kings Road, Kings Mountain, North Carolina 28086.

30. On information and belief, Buckeye designed, manufactured, marketed, distributed, and sold AFFF products containing PFAS, including but not limited to PFOA and PFOS.

31. **Defendant National Foam, Inc. (“National Foam”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 141 Junny Road, Angier, North Carolina 27501.

32. Beginning in or around 1973, National Foam designed, manufactured, marketed, distributed, and sold AFFF containing PFAS, including but not limited to PFOA and PFOS.

33. On information and belief, National Foam currently manufactures the Angus brand of AFFF products.

34. On information and belief, National Foam merged with Chubb Fire Ltd. to form Chubb National Foam, Inc. in or around 1988.

35. On information and belief, Chubb is or has been composed of different subsidiaries and/or divisions, including but not limited to, Chubb Fire & Security Ltd., Chubb Security, PLC, Red Hawk Fire & Security, LLC, and/or Chubb National Foam, Inc. (collectively referred to as “Chubb”).

36. On information and belief, Chubb was acquired by Williams Holdings in 1997.

37. On information and belief, Angus Fire Armour Corporation had previously been acquired by Williams Holdings in 1994.

38. On information and belief, Williams Holdings was demerged into Chubb and Kidde P.L.C. in or around 2000.

39. On information and belief, when Williams Holdings was demerged, Kidde P.L.C. became the successor in interest to National Foam System, Inc. and Angus Fire Armour Corporation.

40. On information and belief, Kidde P.L.C. was acquired by United Technologies Corporation in or around 2005.

41. On information and belief, Angus Fire Armour Corporation and National Foam separated from United Technologies Corporation in or around 2013.

42. **Defendant Carrier Fire & Security Americas Corporation (“Carrier F&S Americas”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business at 13995 Pasteur Blvd, Palm Beach Gardens, Florida 33418-7231.

43. On information and belief, Kidde-Fenwal, Inc. was an operating subsidiary of Kidde P.L.C. and manufactured AFFF following Kidde P.L.C.’s acquisition by United Technologies Corporation. Kidde-Fenwal, Inc. was also the entity that divested the AFFF business unit now operated by National Foam in 2013.

44. On May 14, 2023, Kidde-Fenwal, Inc. filed a voluntary petition for relief under chapter 11 of title 11 of the United States Bankruptcy Code, 11 U.S.C. §§ 101—1532, in the United States Bankruptcy Court for the District of Delaware.

45. In its voluntary petition, Kidde-Fenwal, Inc. identified Kidde Fire Protection, Inc., a holding company organized under the laws of the State of Delaware, as its parent company and the owner of 100% of its common stock.

46. On information and belief, Kidde Fire Protection, Inc. is a wholly owned subsidiary of Carrier F&S Americas, making Carrier F&S Americas the indirect owner of Kidde-Fenwal, Inc. via a holding company.

47. **Defendant Carrier Fire & Security Corporation (“Carrier F&S”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business at 13995 Pasteur Blvd, Palm Beach Gardens, Florida 33418-7231.

48. On information and belief, Carrier F&S Americas is a wholly owned subsidiary of Kidde US Holdings Inc., a holding company organized under the laws of the State of Delaware.

49. On information and belief, Kidde US Holdings Inc. is a wholly owned subsidiary of Carrier F&S, making Carrier F&S the indirect owner of Carrier F&S Americas via a holding company.

50. **Defendant Carrier Global Corporation (“Carrier Global”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business at 13995 Pasteur Boulevard, Palm Beach Gardens, Florida 33418.

51. On information and belief, Carrier Global was formed in March 2020 when United Technologies Corporation spun off its fire and security business before it merged with Raytheon Company in April 2020.

52. On information and belief, UTC Fire & Security Americas Corporation and UTC Fire & Security Corporation became subsidiaries of Carrier Global when United Technologies Corporation spun off its fire and security business in March 2020.

53. In September 2020, UTC Fire & Security Americas Corporation and UTC Fire & Security Corporation changed their names to Carrier Fire & Security Americas Corporation and Carrier Fire & Security Corporation, respectively.

54. On information and belief, Carrier Global became the ultimate corporate parent and owner of Kidde-Fenwal, Inc., Kidde Fire Protection, Inc., Carrier F&S Americas, Kidde US Holdings, Inc., and Carrier F&S when United Technologies Corporation spun off its fire and security business in March 2020.

2. The Fluorosurfactant Defendants

55. The term “**Fluorosurfactant Defendants**” refers collectively to Defendants 3M, Arkema Inc., BASF Corporation, ChemDesign Products Incorporated, Chemguard Inc., Deepwater Chemicals, Inc., E.I. DuPont de Nemours and Company, The Chemours Company, The Chemours Company FC, LLC, Corteva, Inc., DuPont de Nemours Inc., and Dynax Corporation.

56. **Defendant Arkema Inc.** is a corporation organized and existing under the laws of Pennsylvania, with its principal place of business at 900 First Avenue, King of Prussia, PA 19406.

57. Arkema Inc. develops specialty chemicals and polymers.

58. Arkema, Inc. is an operating subsidiary of Arkema France, S.A.

59. On information and belief, Arkema Inc. designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

60. **Defendant BASF Corporation (“BASF”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 100 Park Avenue, Florham Park, New Jersey 07932.

61. On information and belief, BASF is the successor in interest to Ciba. Inc. (f/k/a Ciba Specialty Chemicals Corporation).

62. On information and belief, Ciba Inc. designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

63. **Defendant ChemDesign Products Inc. (“ChemDesign”)** is a corporation organized under the laws of Delaware, with its principal place of business located at 2 Stanton Street, Marinette, WI, 54143.

64. On information and belief, ChemDesign designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

65. **Defendant Deepwater Chemicals, Inc. (“Deepwater”)** is a corporation organized under the laws of Delaware, with its principal place of business located at 196122 E County Road 40, Woodward, OK, 73801.

66. On information and belief, Deepwater Chemicals designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products

67. **Defendant Dynax Corporation (“Dynax”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 103 Fairview Park Drive, Elmsford, New York 10523.

68. On information and belief, Dynax entered into the AFFF market on or about 1991 and quickly became a leading global producer of fluorosurfactants and fluorochemical stabilizers containing PFOS, PFOA, and/or their chemical precursors.

69. On information and belief, Dynax designed, manufactured, marketed, distributed, and sold fluorosurfactants and fluorochemical stabilizers containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

70. **Defendant E.I. du Pont de Nemours and Company (“Old DuPont”)** is a corporation organized under the laws of the State of Delaware, with its principal place of business located at 974 Centre Road, Wilmington, Delaware 19805.

71. On information and belief, Old Dupont is the successor in interest to DuPont Chemical Solutions Enterprise.

72. **Defendant The Chemours Company (“Chemours Co.”)** is a limited liability company organized under the laws of the State of Delaware, with its principal place of business located at 1007 Market Street, P.O. Box 2047, Wilmington, Delaware, 19899.

73. On information and belief, Chemours Co. was incorporated as a subsidiary of Old Dupont as of April 30, 2015. From that time until July 2015, Chemours Co. was a wholly owned subsidiary of Old Dupont.

74. In July 2015, Old Dupont spun off Chemours Co. and transferred to Chemours Co. its “performance chemicals” business line, which includes its fluoroproducts business, distributing shares of Chemours Co. stock to Old Dupont stockholders, and Chemours Co. has since been an independent, publicly traded company. On information and belief, Chemours Co. has supplied fluorosurfactants containing PFOS and PFOA, and/or their chemical precursors, to manufacturers of AFFF products.

75. **Defendant The Chemours Company FC, LLC (“Chemours FC”)** is a limited liability company organized under the laws of the State of Delaware, with its principal place of business located at 1007 Market Street, Wilmington, Delaware, 19899. Chemours FC operates as a subsidiary of Chemours Co. and manufactures fluoropolymer resins.

76. **Defendant DuPont de Nemours Inc. f/k/a DowDuPont, Inc. (“DuPont de Nemours Inc.” or “New DuPont”)** is a corporation organized and existing under the laws of Delaware, with its principal place of business at 974 Centre Road, Wilmington, Delaware 19805 and 2211 H.H. Dow Way, Midland, Michigan 48674.

77. On August 31, 2017, DuPont merged with The Dow Chemical Company to create DowDuPont, Inc. (“DowDuPont”). Since the merger, DowDuPont has completed a series of separation transactions to separate its businesses into three independent, publicly traded companies for materials, science, and specialty products.

78. **Defendant Corteva, Inc. (“Corteva”)** is a corporation organized and existing under the laws of Delaware, with its principal place of business at 974 Centre Rd., Wilmington, Delaware 19805.

79. Corteva was initially formed in February 2018 as a subsidiary of DowDuPont. From that time until June 1, 2019, Corteva was a wholly owned subsidiary of DowDuPont.

80. On June 1, 2019, DowDuPont separated its agriculture business through the spin-off of Corteva. On June 1, 2019, DowDuPont distributed to DowDuPont stockholders all issued and outstanding shares of Corteva common stock by way of a pro-rata dividend. Following that distribution, Corteva became the direct parent of Old DuPont.

81. Corteva holds certain DowDuPont assets and liabilities, including DowDuPont’s agriculture and nutritional businesses.

82. On June 1, 2019, DowDuPont, the surviving entity after the spin-off of Corteva and of another entity known as Dow, Inc., changed its name to DuPont de Nemours, Inc., to be known as DuPont (“New DuPont”). New DuPont retained assets in the specialty products business lines following the above-described spin-offs, as well as the balance of the financial assets and liabilities of DuPont not assumed by Corteva.

83. Defendants E. I. Du Pont de Nemours and Company (“Old DuPont”); The Chemours Company; The Chemours Company FC, LLC; Corteva, Inc.; and DuPont de Nemours, Inc. (“New DuPont”) are collectively referred to as “DuPont” or the “DuPont Defendants” throughout this Complaint.

84. On information and belief, the DuPont Defendants designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

85. On information and belief, 3M and Chemguard also designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products.

86. On information and belief, the Fluorosurfactant Defendants designed, manufactured, marketed, distributed, and sold fluorosurfactants containing PFOS, PFOA, and/or their chemical precursors for use in AFFF products that were stored, handled, used, trained with, tested equipment with, otherwise discharged, and/or disposed in Boulder County.

3. The Fluorochemical Defendants

87. The term “**Fluorochemical Defendants**” refers collectively to 3M, AGC Chemicals Americas Inc., Archroma U.S. Inc., ChemDesign Products Inc., Chemicals, Inc., Clariant Corporation, Deepwater Chemicals, Inc., E. I. Du Pont de Nemours and Company, The

Chemours Company, The Chemours Company FC, LLC, Corteva, Inc., DuPont de Nemours Inc., and Nation Ford Chemical Company.

88. **Defendant AGC Chemicals Americas, Inc. (“AGC”)** is a corporation organized and existing under the laws of Delaware, having its principal place of business at 55 East Uwchlan Avenue, Suite 201, Exton, PA 19341.

89. On information and belief, AGC Chemicals Americas, Inc. was formed in 2004 and is a subsidiary of AGC Inc., a foreign corporation organized under the laws of Japan, with its a principal place of business in Tokyo, Japan.

90. AGC manufactures specialty chemicals. It offers glass, electronic displays, and chemical products, including resins, water and oil repellants, greenhouse films, silica additives, and various fluorointermediates.

91. On information and belief, AGC designed, manufactured, marketed, distributed, and sold fluorochemicals containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

92. **Defendant Archroma U.S., Inc. (“Archroma”)** is a corporation organized and existing under the laws of Delaware, with its a principal place of business at 5435 77 Center Drive, Charlotte, North Carolina 28217.

93. On information and belief, Archroma was formed in 2013 when Clariant Corporation divested its textile chemicals, paper specialties, and emulsions business to SK Capital Partners.

94. On information and belief, Archroma designed, manufactured, marketed, distributed, and sold fluorochemicals containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

95. **Defendant Chemicals, Inc. (“Chemicals, Inc.”)** is a corporation organized and existing under the laws of Texas, with its principal place of business located at 12321 Hatcherville, Baytown, TX 77520.

96. On information and belief, Chemicals, Inc. supplied fluorochemicals containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

97. **Defendant Clariant Corporation (“Clariant”)** is a corporation organized and existing under the laws of New York, with its principal place of business at 4000 Monroe Road, Charlotte, North Carolina 28205.

98. On information and belief, Clariant is the successor in interest to the specialty chemicals business of Sandoz Chemical Corporation (“Sandoz”). On information and belief, Sandoz spun off its specialty chemicals business to form Clariant in 1995.

99. On information and belief, Clariant supplied fluorochemicals containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

100. **Defendant Nation Ford Chemical Co. (“Nation Ford”)** is a corporation organized and existing under the laws of South Carolina, with its principal place of business located at 2300 Banks Street, Fort Mill, SC 29715.

101. On information and belief, Nation Ford supplied fluorochemicals containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

102. On information and belief, 3M, ChemDesign, Deepwater Chemicals, and the DuPont Defendants also supplied fluorochemicals containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products.

103. On information and belief, the Fluorochemical Defendants supplied fluorochemicals containing PFOS, PFOA, and/or their chemical precursors for use in manufacturing the fluorosurfactants used in AFFF products that were stored, handled, used, trained with, tested equipment with, otherwise discharged, and/or disposed of in Boulder County.

104. All Defendants, at all times material herein, acted by and through their respective agents, servants, officers and employees, actual or ostensible, who then and there were acting within the course and scope of their actual or apparent agency, authority or duties. Defendants are liable based on such activities, directly and vicariously.

105. Defendants represent all or substantially all of the market for AFFF/Component Products within Boulder County.

IV. FACTUAL ALLEGATIONS

A. 1940s-1950s: 3M, DuPont, and the Development of a Toxic Chemical Family

106. PFAS are a class of chemicals that contain a chain of carbon bonded to multiple fluorine atoms. There are thousands of different chemicals in the PFAS “family,” each one human-made, as PFAS are not naturally occurring.

107. The carbon-fluorine bond in PFAS is one of the shortest and strongest chemical bonds known. As a result, PFAS are thermally, chemically, and biologically stable. They resist degradation due to light, water, and biological processes.

108. PFAS are also highly mobile molecules. They readily contaminate soils and leach from soil into groundwater, where they can travel significant distances.

109. In addition, PFAS bioaccumulate and biomagnify, meaning that they tend to accumulate both in individual organisms and at every step up the food chain. And PFAS are toxic, meaning that they pose serious health risks to humans and animals. PFAS are readily absorbed after consumption or inhalation and accumulate primarily in the bloodstream, kidney, and liver.

110. The development of this family of chemical compounds began with Defendant 3M in the 1940s. At that time, 3M's Central Research Laboratory was working with a scientist at Penn State University, Joseph H. Simons, who had developed and patented a process of preparing fluorine compounds through electrochemical fluorination ("ECF"). In 1945, 3M acquired Simons' ECF patents. It would be another three years before 3M's Central Research developed fluorinated compounds that could be used for commercial applications. During that time, 3M scientists continuously researched and created new fluorochemicals; in the words of one researcher, "[a]lmost every day we made a new molecule which had never been on the face of the earth before."¹

111. From the early days of its fluorochemical research, 3M recognized the very characteristics that make PFAS persistent pollutants in the environment today. For example, Simons' 1948 patent for the ECF process, which was assigned to 3M, stated that the compounds produced through ECF "are non-corrosive, and of little chemical reactivity," and "do not react with any of the metals at ordinary temperatures and react only with the more chemically reactive metals such as sodium, at elevated temperatures."² The patent also stated that the fluorochemicals produced by ECF do not react with other compounds or reagents due to the blanket of fluorine

¹ Neil McKay, *A Chemical History of 3M: 1933-1990*, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1365.pdf>.

² Joseph H. Simons, *Method of Making Fluorocarbons*, U.S. Patent No. 2,456,027, December 14, 1948, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX2616.pdf>.

atoms surrounding the carbon skeleton of the molecule. 3M understood that the stability of the carbon-to-fluorine bonds prevented the fluorinated compounds from undergoing further chemical reactions or degrading under natural processes in the environment.³

112. 3M was also aware of the thermal stability of its fluorinated compounds prior to commercial production. Simons' ECF patent application states that the compounds produced by ECF were thermally stable at temperatures up to 750° C (1382° F). Additional research by 3M expanded its understanding of the thermal stability of fluorinated compounds.⁴

113. In 1949, 3M built the first manufacturing facility to expand ECF from laboratory research to commercial production, and it began to present its fluorochemical research in order to find potential uses and customers for the compounds it was manufacturing.

114. 3M soon found a customer: DuPont. In 1951, DuPont began purchasing a perfluorinated carboxylic acid (perfluorooctanoic acid or PFOA), for use in manufacturing a non-stick coating called Teflon.

115. Even then, 3M's research had already documented that PFAS accumulate in the blood of mice exposed to the chemicals in laboratory tests.⁵ A 1956 study by researchers at Stanford University found that PFAS bind to proteins in human blood.

116. In 1964, a group of DuPont employees working in Teflon manufacturing became sick after their department was moved to a more enclosed workspace.⁶ They experienced chills,

³ Joseph H. Simons, *Fluorocarbons and Their Production*, Fluorine Chemistry, 1(12): 401-422 (1950), available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX3008.pdf>.

⁴ T.J. Brice, *Their Properties and Wartime Development*, Fluorine Chemistry, Fluorine Chemistry, 1(13): 423-462 (1950).

⁵ 3M, *Test Study Results with Perfluorobutyric Acid*, Hasleton Lab Report, Jan, 10, 1950, available at https://static.ewg.org/reports/2019/pfa-timeline/1950_Mice.pdf?_ga=2.21758526.426747500.1673645134-2012946541.1673645134.

⁶ Charles E. Lewis and Gerald R. Kerby, *An Epidemic of Polymer-Fume Fever*, 191 JAMA 375 (February 1, 1965).

fever, difficulty breathing, and a tightness in the chest—symptoms referred to variously as “polymer-fume fever,” “Teflon flu,” or simply, “the shakes.” Polymer-fume fever was first reported in the medical literature in 1951.

117. A 1965 study sponsored by DuPont found liver damage and increased spleen size in rats fed a PFAS compound over a ninety-day period.⁷

118. In addition to these demonstrations of toxicity, by at least the end of the 1960s, additional research and testing performed by 3M and DuPont indicated that fluorosurfactants were resistant to environmental degradation and would persist essentially unaltered if allowed to enter the environment.

119. One 3M employee wrote in 1964, “This chemical stability also extends itself to all types of biological processes; there are no known biological organisms that are able to attack the carbon-fluorine bond in a fluorocarbon.”⁸ Thus, 3M knew by the mid-1960s that its fluorosurfactants were immune to chemical and biological degradation in soils and groundwater.

120. 3M also knew by 1964 that fluorocarbon carboxylic acids and fluorocarbon sulfonic acids, when dissolved, dissociated to form highly stable perfluorocarboxylate and perfluorosulfonate ions. Later studies by 3M on the adsorption and mobility of FC-95 (the potassium salt of PFOS) and FC-143 (the ammonium salt of PFOA) in soils indicated very high solubility and very high mobility in soils for both compounds.⁹

⁷ Gordon L. Nordby and J. Murray Luck, *Perfluorooctanoic Acid Interactions with Human Serum Albumin*, 219 J. Biol. Chem. 399-404 (1956).

⁸ H. G. Bryce, *Industrial and Utilitarian Aspects of Fluorine Chemistry* (1964), available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX3022.pdf>.

⁹ 3M Technical Report Summary from Stephen K. Welsh to D. L. Bacon on Adsorption of FC 95 and FC143 on Soil (Feb. 27, 1978), available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1158.pdf>.

B. 1960s: The Introduction of AFFF

121. Despite early warnings of the toxic, persistent, and bioaccumulative nature of PFOS and PFOA, these chemicals began to be used in a product that would be released in large quantities directly into the environment whenever used: firefighting foam.

122. AFFF was first developed in the 1960s as a result of the U.S. Navy's research into the use of fluorosurfactants in firefighting foam to extinguish fuel-based shipboard fires. AFFF is synthetically formed by combining fluorine-free hydrocarbon foaming agents with fluorosurfactants. When mixed with water, the resulting solution produces an aqueous film that spreads across the surface of hydrocarbon fuel, extinguishing the fire.

123. In 1969, the Navy promulgated a military standard or "MilSpec" requiring contractors to use "fluorocarbon surfactants" in firefighting foam products. Since then, the Navy has revised this MilSpec multiple times, but at no time did the Navy specify the specific fluorosurfactants to be used in AFFF. The AFFF MilSpec was a "performance specification," meaning that the product manufacturers were given great flexibility with respect to designing a product that would meet the military's performance requirements.

124. Firefighting foam can be made without the fluorosurfactants that contain PFOA, PFOS, and/or their precursor chemicals.

125. When the Navy first promulgated the AFFF MilSpec, hundreds of different fluorosurfactants had already been created.

126. Nonetheless, beginning in the 1960s, the AFFF Defendants designed, manufactured, marketed, distributed, and/or sold AFFF products that used fluorosurfactants containing either PFOS, PFOA, or the chemical precursors that degrade into PFOS and PFOA.

127. From the late 1960s to 2002, Defendant 3M manufactured and sold AFFF containing PFOS under the brand name "Light Water."

128. Because 3M held the patents on the ECF process, other AFFF Defendants utilized PFAS produced through a different process, called fluorotelomerization. These fluorotelomer AFFF formulations were produced beginning in the 1970s. Although they are not made with PFOA, they contain precursors—polyfluorinated compounds that are known to degrade to compounds that include PFOA.

129. On information and belief, the AFFF Defendants designed, manufactured, marketed, distributed, and/or sold the AFFF products discharged into the environment in Boulder County during firefighting training and emergency response activities, resulting in widespread PFAS contamination.

130. The AFFF Defendants treated their foam formulations as proprietary information and did not disclose the specific chemical ingredients of their formulations to government agencies or the public.

131. Some or all of the Defendants understood how stable the fluorinated surfactants used in AFFF are when released into the environment from their first sale to a customer, yet they failed to warn their customers or provide reasonable instruction on how to manage wastes generated from their products.

C. 1970s-1980s: Defendants' Deepening Knowledge of the Risks of PFOA and PFOS

132. By at least the 1970s, as Defendants expanded the market for AFFF formulations containing PFOA and PFOS, 3M and DuPont knew or should have known that PFOA and PFOS are mobile and persistent, bioaccumulative and biomagnifying, and toxic.

133. An internal 3M memo from 1971 states that “the thesis that there is ‘no natural sink’ for fluorocarbons obviously demands some attention.”¹⁰ But if 3M did give this issue the attention demanded at this time, it did not share it with the public.

134. In 1975, two independent toxicologists, Dr. Warren Guy and Donald Taves, discovered that an unidentified fluorine compound had been found in human blood sampled from different blood banks. Dr. Guy contacted 3M to ask if it knew of “possible sources” of the chemicals.¹¹ 3M’s scientists concluded internally that the fluorine compounds resembled PFOS manufactured by 3M, but 3M did not share this conclusion with the independent toxicologists or anyone else outside of 3M.

135. 3M did, however, test the blood of its own workers in 1976, finding “up to 1000 times ‘normal’ amounts of organically bound fluorine in their blood.”¹²

136. That same year, another 3M study found that FC-95 (i.e., PFOS) did not biodegrade—a unsurprising result, given that, as the report noted, “[b]iodegradation of FC 95 is improbable because it is completely fluorinated.”¹³

137. In 1977, Ansul, the AFFF manufacturer later acquired by Defendant Tyco, authored a report titled “Environmentally Improved AFFF,” which acknowledged that releasing AFFF into

¹⁰ 3M Memorandum from H. G. Bryce to R. M. Adams on Ecological Aspects of Fluorocarbons (Sept. 13, 1971), *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1088.pdf>.

¹¹ 3M Memorandum from G. H. Crawford to L.C. Krogh et al. on Fluorocarbons in Human Blood Plasma (Aug. 20, 1975), *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1118.pdf>.

¹² 3M, *Chronology – Fluorochemicals in Blood*, Aug. 26, 1977, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1144.pdf>.

¹³ Technical Report Summary from E. A. Reiner to R. L. Bohon on Fate of Fluorochemicals in the Environment, Biodegradation Studies of Fluorocarbons – III (August 12, 1976).

the environment could pose potential negative impacts to groundwater quality.¹⁴ Ansul wrote: “The purpose of this work is to explore the development of experimental AFFF formulations that would exhibit reduced impact on the environment while retaining certain fire suppression characteristic . . . improvements [to AFFF formulations] are desired in the environmental area, i.e., development of compositions that have a reduced impact on the environment without loss of fire suppression effectiveness.” Thus, Ansul knew by the mid-1970s that the environmental impact of AFFF needed to be reduced, yet there is no evidence that Ansul (or any other Defendant) ever pursued initiatives to do so.

138. A 1978 3M biodegradation study likewise reported that an “extensive study strongly suggest[ed]” one of its PFAS was “likely to persist in the environment for extended period unaltered by metabolic attack.”¹⁵ A year later, a 3M study reported that one of its fluorosurfactants “was found to be completely resistant to biological test conditions,” and that it appeared waterways were the fluorosurfactant’s “environmental sink.”¹⁶

139. At the same time, several studies sponsored by 3M showed that the fluorosurfactants used in AFFF were even more toxic than previously believed. A study of subacute toxicity in rhesus monkeys, in which the monkeys were to be given doses of PFOS over ninety days, had to be redesigned and repeated “[b]ecause of unexpected early mortalities in all

¹⁴ The Ansul Co., *Final Report: Environmentally Improved AFFF*, N00173-76-C-0295, Marinette, WI, Dec. 13, 1977, available at <https://apps.dtic.mil/dtic/tr/fulltext/u2/a050508.pdf>.

¹⁵ 3M Technical Report Summary from E. A. Reiner to D. L. Bacon on Fate of Fluorochemicals in the Environment, Biodegradation Studies of Fluorocarbons – II (Jan. 9, 1978), available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1153.pdf>.

¹⁶ 3M Technical Report Summary from E. A. Reiner to D. L. Bacon on Fate of Fluorochemicals in the Environment, Biodegradation Studies of Fluorocarbons – III (July 19, 1978), available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1179.pdf>.

monkeys at all levels.”¹⁷ None of the monkeys survived past twenty days. As a summary of the study stated, PFOS “proved to be considerably more toxic to monkeys than anticipated[.]” In addition, PFOA reduced the survival rate of fathead minnow fish eggs,¹⁸ and PFOS and PFOA were shown to be toxic to rats.¹⁹ As the summary observed, “[b]ecause of the apparent persistence of these fluorochemicals in the body, *the most important question remains possible long term effects.*”²⁰

140. In 1979, 3M also completed a comprehensive biodegradation and toxicity study covering investigations between 1975 and 1978.²¹ More than a decade after 3M began selling AFFF containing fluorosurfactants, it wrote, “there has been a general lack of knowledge relative

¹⁷ International Research and Development Corp., *Ninety-Day Subacute Rhesus Monkey Toxicity Study*, Dec. 18, 1978, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1191.pdf>; International Research and Development Corp., *90-Day Subacute Rhesus Monkey Toxicity Study*, Jan. 2, 1979, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1193.pdf>; FC-95, FC-143 and FM-3422 – 90 Day Subacute Toxicity Studies Conducted at IRDC – Review of Final Reports and Summary, Mar. 20, 1979, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1199.pdf>

¹⁸ EG&G, Bionomics Aquatic Toxicology Laboratory, *The Effects of Continuous Aqueous Exposure to 78.03 on Hatchability of Eggs and Growth and Survival of Fry of Fathead Minnow*, June 1978, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1176.pdf>.

¹⁹ International Research and Development Corp., *Acute Oral Toxicity (LD₅₀) Study in Rats (FC-143)*, May 5, 1978, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1170.pdf>; FC-95, FC-143 and FM-3422 – 90 Day Subacute Toxicity Studies Conducted at IRDC – Review of Final Reports and Summary, Mar. 20, 1979, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1199.pdf>.

²⁰ *Id.* (FC-95, FC-143 and FM-3422 – 90 Day Subacute Toxicity Studies Conducted at IRDC – Review of Final Reports and Summary, Mar. 20, 1979, available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1199.pdf>.)

²¹ 3M Technical Report Summary from A.N. Welter to R. A. Prokop on Final Comprehensive Report on FM 3422 (Feb. 7, 1979), available at <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX2563.pdf>.

to the environmental impact of these chemicals.” The report asked, “If these materials are not biodegradable, what is their fate in the environment?”

141. In 1979, 3M and DuPont discussed 3M’s discovery of high levels of PFOS in the blood of its workers. Both companies came to the same conclusion: there was “no reason” to notify the EPA of the finding.²² 3M told the EPA in 1980 only that it had discovered PFOS in the blood of “some of our plant employees.”

142. By at least the end of the 1980s, additional research and testing performed by Defendants, including at least 3M and DuPont, indicated that elevated incidence of certain cancers and other adverse health effects, including elevated liver enzymes and birth defects, had been observed among workers exposed to such materials, including at least PFOA, but such data was not published, provided to governmental entities as required by law, or otherwise publicly disclosed at the time.

143. In 1981, DuPont tested for and found PFOA in the blood of female workers at its Washington Works plant in Parkersburg, West Virginia, where it had been using 3M’s PFOA to manufacture Teflon since 1951. DuPont observed and documented pregnancy outcomes in exposed workers, finding two of seven children born to female plant workers between 1979 and 1981 had birth defects—one an “unconfirmed” eye and tear duct defect, and one a nostril and eye defect.²³

²² 3M Memorandum from R. A. Prokop to J. D. Lazerte on Disclosure of Information on Levels of Fluorochemicals in Blood (July 26, 1979), *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX2723.pdf>.

²³ C-8 Blood Sampling Results, *available at* https://static.ewg.org/files/PFOA_013.pdf?_ga=2.163206265.435547009.1676618801-2012946541.1673645134.

144. In 1983, 3M researchers concluded that concerns about PFAS “give rise to concern for environmental safety,” including “legitimate questions about the persistence, accumulation potential, and ecotoxicity of fluorochemicals in the environment.”²⁴ That same year, 3M completed a study finding that PFOS caused the growth of cancerous tumors in rats.²⁵ This finding was later shared with DuPont and led them to consider whether “they may be obliged under their policy to call FC-143 a carcinogen in animals.”²⁶

145. In 1984, 3M documented a trend of increasing levels of PFOS in the bodies of 3M workers, leading one of the company’s medical officers to warn in an internal memo: “we must view this present trend with serious concern. It is certainly possible that . . . exposure opportunities are providing a potential uptake of fluorochemicals that exceeds excretion capabilities of the body.”²⁷

146. The same year, DuPont tested drinking water near its Washington Works plant and found elevated PFOA levels in the water, but, after deciding that limiting PFOA discharge from the plant would not be “economically attractive,” it did nothing to reduce contamination from the plant.

²⁴ 3M Memorandum from R. L. Rohn - Environmental Lab/EE & PC to J. D. Lazerte on Fate of Fluorochemicals - Phase II (May 20, 1983), *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1284.pdf>.

²⁵ Riker Laboratories, Inc. and 3M, *Two Year Oral (Diet) Toxicity/Carcinogenicity Study of Fluorochemical FC-143 in Rats*, Volume 1 of 4, Aug. 29, 1987, *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1337.pdf>.

²⁶ 3M Memorandum from R. G. Perkins to F. D. Griffith on Summary of the Review of the FC-143 Two-Year Feeder Study Report to be presented at the January 7, 1988 meeting with DuPont (Jan. 5, 1988), *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1343.pdf>.

²⁷ 3M Memorandum from D. E. Roach to P. F. Riehle on Organic Fluorine Levels (Aug. 31, 1984), *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1313.pdf>.

D. 1990s-2000s: With 3M and DuPont Under Scrutiny, the AFFF Market Shifts to Telomerization

147. Federal law requires chemical manufacturers and distributors to immediately notify the EPA if they have information that “reasonably supports the conclusion that such substance or mixture presents a substantial risk of injury to health or the environment.” Toxic Substances Control Act (“TSCA”) § 8(e), 15 U.S.C. § 2607(e).

148. Despite its decades of research, 3M waited until May 1998 to submit a report to the EPA under TSCA Section 8(e). Even in that submission, however, 3M downplayed what it knew, according to a former employee:

Just before that submission we found PFOS in the blood of eaglets—eaglets still young enough that their only food consisted of fish caught in remote lakes by their parents. This finding indicates a widespread environmental contamination and food chain transfer and probable bioaccumulation and bio-magnification. This is a very significant finding that the 8e reporting rule was created to collect. 3M chose to report simply that PFOS had been found in the blood of animals, which is true but omits the most significant information.²⁸

149. And although 3M acknowledged, in 1998, the presence of PFOS in the blood of the general population, it insisted that it did not “believe that any reasonable basis exists to conclude that PFOS ‘presents a substantial risk of injury to health or the environment.’” Internally, the message was quite different: 3M’s Manager of Corporate Toxicology advised the company to replace “PFOS-based chemistry as these compounds [are] *VERY persistent and thus insidiously toxic.*”

150. In 2000, 3M, after half a century of manufacturing fluorinated chemicals through ECF, announced that it would phase out its production of several long-chain PFAS compounds, including PFOA, although it continued to manufacture other PFAS chemicals.

²⁸ Letter from R. Purdy to 3M (Mar. 28, 1999), *available at* <https://www.ag.state.mn.us/Office/Cases/3M/docs/PTX/PTX1001.pdf>.

151. In April 2006, 3M agreed to pay EPA a penalty of more than \$1.5 million after being cited for 244 violations of the TSCA, which included violations for failing to disclose studies regarding PFOS, PFOA, and other fluorinated compounds, dating back decades.

152. The late 1990s and early 2000s also brought scrutiny to DuPont's use of PFOA, beginning in 1998 when a farmer in the Ohio River Valley sued DuPont over contamination from its Washington Works plant. DuPont had purchased land from the farmer in 1984 for use as a landfill for supposedly non-hazardous waste materials. Over the years, that farmer observed wildlife dying off near the landfill, serious illness among family members, and the loss of an entire herd of cattle. DuPont settled that case in 2001, but soon faced another lawsuit, as that same landfill plot contained a creek that fed directly into the Ohio River, exposing tens of thousands of residents to PFOA contamination. The settlement agreement in the second action included the creation of a panel of independent scientists tasked with researching the health effects of PFOA, called the "C8 Science Panel." "C8" is another term for PFOA, based on its eight carbon atoms.

153. The C8 Science Panel consisted of three epidemiologists specifically tasked with determining whether there was a probable link between PFOA exposure and human diseases. Between 2005 and 2013, the C8 Science Panel carried out exposure and health studies in the Mid-Ohio Valley communities. The panel found probable links between PFOA and kidney cancer, testicular cancer, ulcerative colitis, thyroid disease, pregnancy-induced hypertension (including preeclampsia), and hypercholesterolemia.

154. In December 2005, the EPA announced it was imposing the "largest environmental administrative penalty in agency history" against DuPont based on evidence that it violated the TSCA by concealing the environmental and health effects of PFOA.

155. Following 3M's phase-out of ECF production and its AFFF product, telomerization emerged as the dominant manufacturing process for fluorosurfactants. 3M had been the dominant manufacturer in the lucrative AFFF market, and multiple companies seized the opportunity created by 3M's withdrawal. But the market opportunity presented uncertainties, as it was unclear whether regulators would view the telomer-based AFFF as posing the same hazards as 3M's PFOS-containing AFFF. The key question for regulators was whether the telomer-based AFFF would degrade to PFOA once in the environment.

156. Defendants Tyco, Chemguard, Kidde, National Foam, and Buckeye formed a group called the Fire Fighting Foam Coalition ("FFFC") to protect their business opportunity and advocate for the continued use of telomer-based AFFF. The FFFC declared that it would serve as "a single source for accurate, balanced information on environment related questions" and would "ensure that accurate information about PFOS alternatives, including telomer-based products, is disseminated in the marketplace." The FFFC made several representations regarding the safety of telomer-based AFFF that were either misleading half-truths or were contrary to Defendants' internal knowledge. For example, the FFFC assured the public that "telomer based AFFF does not contain PFOS and cannot be oxidized or metabolized into PFOS." This statement was true, but only because PFOS was exclusively manufactured by 3M, and it did not mean that telomer-based AFFF was any safer.

157. The FFFC also told the EPA in 2001 that telomer-based AFFF "does not contain any PFOA-based product." The issue, however, was whether telomer-based AFFF could degrade into PFOA. One company executive admitted in an internal memo that his company's AFFF "will degrade in the environment" to produce PFOA and the "question is how toxic" and how "bioaccumulative" these degraded products are. But contrary to this internal acknowledgment, the

FFFC publicly asserted that “telomer based fire fighting foams are not likely to be a source of PFOA in the environment.”

158. The EPA appointed a committee known as the Telomer Technical Workgroup to make recommendations to the agency. The president of the FFFC represented the telomer-based AFFF industry on the EPA committee. When, in 2003, the Telomer Technical Workgroup reported its conclusions and recommendations, the FFFC president was the spokesperson.

159. In what the FFFC president called a “major victory” for the industry, the EPA accepted the proposal of its Workgroup that “telomer-based fire fighting foams no longer be considered as part of the PFOA ECA process.” The FFFC president remarked that “[w]hen we started this organization two years ago [in 2001], the fate of telomer based AFFF was being tied directly to the fate of PFOA and the EPA had just told the military to start searching for alternatives to AFFF.” The telomer-based AFFF Defendants had successfully forestalled government restrictions on their products, thereby prolonging the use of AFFF in Boulder County and elsewhere.

160. The fluorosurfactants used in AFFF products sold by the AFFF Defendants other than 3M were manufactured by the Fluorosurfactant Defendants through the process of telomerization.

161. The fluorochemicals the Fluorosurfactant Defendants needed to manufacture those fluorosurfactants contained PFOS, PFOA, and/or their chemical precursors and were designed, manufactured, marketed, distributed and/or sold by the Fluorochemical Defendants.

162. On information and belief, the Fluorochemical and Fluorosurfactant Defendants were aware that the fluorochemicals and fluorosurfactants they designed, manufactured, marketed,

distributed, and/or sold would be used in the AFFF products designed, manufactured, marketed, distributed, and/or sold by the AFFF Defendants.

163. On information and belief, the Fluorochemical and Fluorosurfactant Defendants designed, manufactured, marketed, distributed, and/or sold the fluorochemicals and/or fluorosurfactants contained in the AFFF products discharged into the environment within Boulder County during firefighting training and emergency response activities.

E. The DuPont Defendants' Fraudulent Transfers

164. The DuPont Defendants have engaged in a series of transactions in an effort to shield assets from, and otherwise hinder or delay, the Plaintiff and other creditors.

165. In 2013, E. I. Du Pont de Nemours and Company ("Old DuPont") announced its intention to separate its performance chemicals business, including fluoroproducts, through a U.S. tax-free spin-off to shareholders. In this spinoff, a newly formed subsidiary would assume significant environmental and tort liabilities of Old DuPont, pay a multibillion-dollar dividend to Old DuPont, and be spun-off to Old DuPont's shareholders.

166. Chemours Co. was formed in February 2014 as a wholly owned subsidiary of Old DuPont, remaining so until July 1, 2015, when Old DuPont completed the spin-off, along with the assumption by Chemours Co. of vast environmental liabilities which included those related to PFOS and PFOA and fluorosurfactants ("the Chemours Spinoff").

167. Through their effectuation of the spin-off in July 2015, Chemours Co. and Old DuPont caused Chemours Co. to transfer valuable assets to Old DuPont, including but not limited to a \$3.9 billion dividend (the "Transfers"), while simultaneously assuming significant liabilities (the "Assumed Liabilities").

168. At the time the Transfers were made and Assumed Liabilities were assumed, Chemours had a separate board; however, the board was controlled by Old DuPont employees.

169. At the time the Transfers were made and Assumed Liabilities were assumed, Old DuPont had been sued, threatened with suit, and/or had knowledge of the likelihood of litigation to be filed regarding Old DuPont's liabilities for damages and injuries from the manufacture, sale, and/or disposal of PFAS-containing products. For example:

A. In 2005, Old DuPont agreed to pay \$16.5 million in civil penalties to the EPA to resolve eight counts of alleged violations of environmental statutes concerning PFAS contamination.

B. Also in 2005, Old DuPont agreed to pay \$343 million to settle the class action lawsuit filed on behalf of 70,000 residents of the Ohio River Valley relating to the contamination of the watershed with PFOA. This settlement also created the C8 Science Panel, which, as discussed above, conducted studies on the health effects of PFOA exposure between 2005 and 2013.

C. In 2015, at the time the Transfers were made and Assumed Liabilities were assumed, another MDL involving over 3,500 PFOA-related personal injury claims brought by citizens of Ohio and West Virginia was pending in Ohio.²⁹

170. The assets Old DuPont transferred to Chemours were unreasonably small in relation to the business or transaction and to the Assumed Liabilities. As a result, Chemours Co. did not receive a reasonably equivalent value in exchange for its assumption of liabilities of Old DuPont.

171. Old DuPont knew or reasonably should have known that Chemours Co. would incur debts beyond its ability to pay as they became due. Through the Transfers and Assumed Liabilities

²⁹ On February 13, 2017, following three multimillion-dollar jury verdicts in three bellwether trials in the Ohio MDL, Old DuPont and Chemours Co. agreed to pay \$671 million to resolve the Ohio MDL, with an additional \$125 million promised by Chemours Co. for future PFOA costs not covered by the settlement for a period of five years.

Old DuPont and Chemours Co. limited the availability of assets to cover all of the liability for damages and injuries arising from Old DuPont's manufacture and sale of PFAS-containing products.

172. On information and belief, Old Dupont and Chemours Co. entered into the Transfers and provided for Chemours Co.'s assumption of the Assumed Liabilities with actual intent to hinder or delay Plaintiff and other creditors.

173. The assumption of liabilities by Chemours Co. did not relieve Old DuPont of liability for the claims asserted herein or other liabilities related to Old DuPont's manufacture and sale of PFAS-containing products.

174. In furtherance of Old DuPont's efforts to shield assets from and otherwise hinder or delay creditors, in December 2015 Old DuPont and The Dow Chemical Company ("Dow") completed a merger in which each of them merged into a separate subsidiary of a newly formed entity, DowDuPont, Inc. ("DowDuPont"). On information and belief, Old DuPont and Dow merged into separate subsidiaries of DowDuPont as part of an effort to avoid exposing Dow to the existing liabilities of DuPont, including liability for the claims asserted herein and other PFAS liabilities.

175. Following the Dow-DuPont merger, DowDuPont engaged in a series of significant internal reorganizations and other transactions (the "Post-Merger Transactions"), including the transactions provided for in an April 1, 2019 Separation and Distribution Agreement (the "DowDuPont Separation Agreement") among DowDuPont and its two subsidiaries, Dow, Inc. and Corteva, Inc. On information and belief, as part of the Post-Merger Transactions, significant assets of Old DuPont were transferred to DowDuPont and Corteva for less than reasonably equivalent value, leaving Old DuPont with assets that were unreasonably small in relation to its business.

After these transactions, Old DuPont had assets insufficient to pay its liabilities, including its liabilities for the claims asserted herein and other PFAS liabilities.

176. The Post-Merger Transactions were completed on or about June 1, 2019, when: (a) the “Agriculture Business” of Old DuPont was held by Corteva, (b) 100% of the stock of Old DuPont was held by Corteva, (c) the stock of Corteva was spun-off to the shareholders of DowDuPont, (d) the stock of the Dow, Inc. subsidiary of DowDuPont was distributed to the shareholders of DowDuPont, and (e) the “Specialty Products Business” and certain other assets of DuPont were retained by DowDuPont (whose name was changed to DuPont de Nemours Inc. (“New Dupont”)).

177. On information and belief, the DuPont Defendants engaged in the Post-Merger Transactions with actual intent to hinder or delay Plaintiff and other creditors.

178. Further, in effecting the Post-Merger Transactions, the DuPont Defendants knew or reasonably should have known that Old DuPont would no longer have sufficient assets to pay its liabilities, including its liabilities for the claims asserted herein and other PFAS liabilities.

179. Further, as part of the DowDuPont Separation Agreement, Corteva and New DuPont (f/k/a DowDuPont) assumed direct financial responsibility for certain liabilities of Old DuPont including, on information and belief, liability for the claims asserted herein and other PFAS liabilities. Corteva assumed responsibility for 29% of such liabilities and New DuPont assumed responsibility for 71% thereof.

F. Defendants Hid What They Knew from the Government and the Public

180. On information and belief, Defendants knew or should have known that AFFF containing PFOA or PFOS would very likely injure and/or threaten public health and the environment, even when used as intended or directed.

181. Defendants failed to warn of these risks to the environment and public health, including the impact of their AFFF/Component Products on the quality of unprotected water sources.

182. Defendants were all sophisticated and knowledgeable in the art and science of designing, formulating, and manufacturing AFFF/Component Products. They understood far more about the properties of their AFFF/Component Products—including the potential hazards they posed to human health and the environment—than any of their customers. Still, Defendants declined to use their sophistication and knowledge to design safer products.

183. As discussed above, neither 3M, DuPont, nor, on information and belief, any other Defendant complied with their obligations to notify EPA about the “substantial risk of injury to health or the environment” posed by their AFFF/Component Products. *See* TSCA § 8(e).

184. Human health effects associated with PFOS exposure include immune system effects, changes in liver enzymes and thyroid hormones, low birth weight, high uric acid, and high cholesterol. In laboratory testing on animals, PFOA and PFOS have caused the growth of tumors, changed hormone levels, and affected the function of the liver, thyroid, pancreas, and immune system.

185. The injuries caused by PFAS can arise months or years after exposure.

186. Even after the C8 Science Panel publicly announced that human exposure to 50 parts per trillion, or more, of PFOA in drinking water for one year or longer had “probable links” with certain human diseases, including kidney cancer, testicular cancer, ulcerative colitis, thyroid disease, preeclampsia, and medically diagnosed high cholesterol, Defendants repeatedly assured and represented to governmental entities, their customers, and the public (and continue to do so)

that the presence of PFOA in human blood at the levels found within the United States presents no risk of harm and is of no legal, toxicological, or medical significance of any kind.

187. Furthermore, Defendants have represented to and assured such governmental entities, their customers, and the public (and continue to do so) that the work of the independent C8 Science Panel was inadequate to satisfy the standards of Defendants to prove such adverse effects upon and/or any risk to humans with respect to PFOA in human blood.

188. At all relevant times, Defendants, through their acts and/or omissions, controlled, minimized, trivialized, manipulated, and/or otherwise influenced the information that was published in peer-review journals, released by any governmental entity, and/or otherwise made available to the public relating to PFAS in human blood and any alleged adverse impacts and/or risks associated therewith, effectively preventing the public from discovering the existence and extent of any injuries/harm as alleged herein.

G. Federal, State, and International Government Agencies Call for Monitoring and Cleanup of PFAS Contamination

189. On May 2, 2012, the EPA published its Third Unregulated Contaminant Monitoring Rule (“UCMR3”), requiring public water systems nationwide to monitor for thirty contaminants of concern between 2013 and 2015, including PFOS and PFOA.³⁰

190. In the May 2015 “Madrid Statement on Poly- and Perfluoroalkyl Substances (PFAS’s),” scientists and other professionals from a variety of disciplines, concerned about the production and release into the environment of PFOA, called for greater regulation, restrictions, limits on the manufacture and handling of any PFOA containing product, and to develop safe non-

³⁰ Revisions to the Unregulated Contaminant Monitoring Regulation (UCMR 3) for Public Water Systems, 77 Fed. Reg. 26,072 (May 2, 2012).

fluorinated alternatives to these products to avoid long-term harm to human health and the environment.³¹

191. On May 25, 2016, the EPA released a lifetime health advisory level (HAL) for drinking water and health effects support documents for PFOS and PFOA.³² See Fed. Register, Vol. 81, No. 101, May 25, 2016. The EPA developed the HAL to assist governmental officials in protecting public health when PFOS and PFOA are present in drinking water. The EPA HAL identified the concentration of PFOS and PFOA in drinking water at or below which adverse health effects are not anticipated to occur over a lifetime of exposure at 0.07 ppb or 70 ppt. The HAL was based on peer-reviewed studies of the effects of PFOS and PFOA on laboratory animals (rats and mice) and was also informed by epidemiological studies of human populations exposed to PFOS. These studies indicated that exposure to PFOS and PFOA over the HAL could result in adverse health effects, including:

- A. Developmental effects to fetuses during pregnancy or to breastfed infants (e.g., low birth weight, accelerated puberty, skeletal variations);
- B. Cancer (testicular and kidney);
- C. Liver effects (tissue damage);
- D. Immune effects (e.g., antibody production and immunity);
- E. Thyroid disease and other effects (e.g., cholesterol changes).

³¹ A. Blum, S.A. Balan, M. Scheringer, X. Trier, G. Goldenman, I. T. Cousins, M. Diamond, T. Fletcher, C. Higgins A. E. Lindeman, G. Peaslee, P. de Voogt, Z. Wang, R. Weber, *The Madrid Statement on Poly- and Perfluoroalkyl Substances (PFASs)*, Environmental Health Perspectives (2015), 123:A107–A111; available at <http://dx.doi.org/10.1289/ehp.1509934>.

³² See Lifetime Health Advisories and Health Effects Support Documents for Perfluorooctanoic Acid and Perfluorooctane Sulfonate, 81 Fed. Reg. 33,250 (May 25, 2016).

192. In 2016, the National Toxicology Program of the United States Department of Health and Human Services (“NTP”) and the International Agency for Research on Cancer (“IARC”) both released extensive analyses of the expanding body of research regarding the adverse effects of fluorochemicals. The NTP concluded that both PFOA and PFOS are “presumed to be an immune hazard to humans” based on a “consistent pattern of findings” of adverse immune effects in human (epidemiology) studies and “high confidence” that PFOA and PFOS exposure was associated with suppression of immune responses in animal (toxicology) studies.³³

193. IARC similarly concluded that there is “evidence” of “the carcinogenicity of . . . PFOA” in humans and in experimental animals, meaning that “[a] positive association has been observed between exposure to the agent and cancer for which a causal interpretation is . . . credible.”³⁴

194. California has listed PFOA and PFOS on its Proposition 65 list as chemicals known to cause reproductive toxicity under the Safe Drinking Water and Toxic Enforcement Act of 1986.³⁵

195. The United States Senate and House of Representatives passed the National Defense Authorization Act in November 2017, which included \$42 million to remediate

³³ See U.S. Dep’t of Health and Human Services, Nat’l Toxicology Program, *NTP Monograph: Immunotoxicity Associated with Exposure to Perfluorooctanoic Acid or Perfluorooctane Sulfonate* (Sept. 2016), at 1, 17, 19, available at https://ntp.niehs.nih.gov/ntp/ohat/pfoa_pfos/pfoa_pfosmonograph_508.pdf.

³⁴ See Int’l Agency for Research on Cancer, IARC Monographs: *Some Chemicals Used as Solvents and in Polymer Manufacture* (Dec. 2016), at 27, 97, available at <http://monographs.iarc.fr/ENG/Monographs/vol110/mono110.pdf>.

³⁵ California Office of Environmental Health Hazard Assessment, Chemicals Listed Effective Nov. 10, 2017 as Known to the State of California to Cause Reproductive Toxicity: Perfluorooctanoic Acid (PFOA) and Perfluorooctane Sulfonate (PFOS) (Nov. 9, 2017), available at <https://oehha.ca.gov/proposition-65/crn/chemicals-listed-effective-november-10-2017-known-state-california-cause>.

fluorochemical contamination from military bases, as well as devoting \$7 million toward the Investing in Testing Act, which authorizes the Center for Disease Control and Prevention to conduct a study into the long-term health effects of PFOA and PFOS exposure.³⁶ The legislation also required that the Department of Defense submit a report on the status of developing a new military specification for AFFF that did not contain PFOS or PFOA.³⁷

196. In June 2018, the Agency for Toxic Substances and Disease Registry (“ATSDR”) and EPA released a draft toxicological profile for PFOS and PFOA and recommended the drinking water advisory levels be lowered to 11 ppt for PFOA and 7 ppt for PFOS.³⁸

197. In December 2019, the United States Senate and House of Representatives passed the National Defense Authorization Act for Fiscal Year 2020 (“FY 2020 NDAA”), which introduced new prohibitions on the use of AFFF for land-based applications.³⁹ Section 322 of the Act introduced a timeline for the phasing out of AFFF use by the military, including by requiring the Secretary of the Navy to publish a new military specification for a fluorine-free fire-fighting agent for use at all military installations by January 31, 2023. Section 322(b) and (c) then provide that Department of Defense organizations will no longer be authorized to purchase AFFF containing more than 1 part per billion of PFAS after October 1, 2023, and that after October 1,

³⁶ National Defense Authorization Act for Fiscal Year 2018, H.R. 2810, 115th Congress (Dec. 12, 2017), available at <https://www.congress.gov/115/plaws/publ91/PLAW-115publ91.pdf>.

³⁷ *Id.*; see also U.S. Department of Defense, *Alternatives to Aqueous Film Forming Foam Report to Congress* (June 2018), available at <https://www.denix.osd.mil/derp/home/documents/alternatives-to-aqueous-film-forming-foam-report-to-congress/>.

³⁸ ATSDR, *Toxicological Profile for Perfluoroalkyls* (May 2021), available at <https://www.atsdr.cdc.gov/toxprofiles/tp200.pdf>.

³⁹ National Defense Authorization Act for Fiscal Year 2020, S. 1790, 116th Congress (Jan. 3, 2019), available at <https://www.govinfo.gov/content/pkg/BILLS-116s1790enr/pdf/BILLS-116s1790enr.pdf>.

2024, this prohibition will extend to the use of any PFAS-containing AFFF at any military installation.

198. On February 20, 2020, the EPA announced a proposed decision to regulate PFOA and PFOS under the Safe Drinking Water Act, which the agency characterized as a “key milestone” in its efforts to “help communities address per- and polyfluoroalkyl substances (PFAS) nationwide.”⁴⁰

199. On June 15, 2022, the EPA released new drinking water health advisory levels (HALs) for four PFAS, including new interim HALs for PFOS and PFOA that departed significantly from the 2016 EPA HAL they replaced.⁴¹ See Fed. Register, Vol. 87, No. 36848, June 21, 2022. Specifically, EPA issued HALs of 0.004 ppt for PFOA and 0.02 ppt for PFOS,⁴² which collectively accounted for only a small fraction of the combined 70 ppt HAL that preceded them. Importantly, EPA set these interim HALs at levels below which PFOS and PFOA can be measured using current analytic methods, meaning that the mere detection of PFOS or PFOA in a water provider’s system would be sufficient on its own to exceed the new levels.

200. As support for its decision, EPA explained that the new interim HALs for PFOS and PFOA were “based on human studies” that “found associations between PFOA and/or PFOS exposure and effects on the immune system, the cardiovascular system, human development (e.g., decreased birth weight), and cancer.”⁴³ Specifically, EPA had performed updated health effects

⁴⁰ EPA Press Release, *EPA Announces Proposed Decision to Regulate PFOA and PFOS in Drinking Water* (Feb. 20, 2020), available at <https://www.epa.gov/newsreleases/epa-announces-proposed-decision-regulate-pfoa-and-pfos-drinking-water>.

⁴¹ See Lifetime Drinking Water Health Advisories for Four Perfluoroalkyl Substances, 87 Fed. Reg. 36,848 (June 21, 2022).

⁴² *Id.*

⁴³ EPA, *Drinking Water Health Advisories for PFAS Fact Sheet for Communities* at 1-2 (June 2022), available at <https://www.epa.gov/system/files/documents/2022-06/drinking-water-ha-pfas-factsheet-communities.pdf>.

analyses for PFOS and PFOA to provide support for the drinking water regulations the agency planned to adopt for the two chemicals under the SDWA. Based on these analyses, EPA concluded that “the levels at which negative health effects could occur are much lower than previously understood when EPA issued the 2016 health advisories for PFOA and PFOS—including near zero for certain health effects.”⁴⁴ For this reason, the agency determined there was a “pressing need to provide updated information on the current best available science to public health officials prior to finalization of the health effects assessment.”⁴⁵

201. Because the referenced health analyses are still undergoing final review by EPA’s Science Advisory Board, the agency has stated that the new interim HALs for PFOS and PFOA are subject to change. EPA has indicated, however, that it does not anticipate any changes resulting in revised HALs for PFOS and PFOA that are greater than the 4 ppt minimum reporting level⁴⁶ that applies to Public Water Systems.⁴⁷

⁴⁴ EPA, *Drinking Water Health Advisories for PFAS Fact Sheet for Public Water Systems* at 2 (June 2022), available at <https://www.epa.gov/system/files/documents/2022-06/drinking-water-ha-pfas-factsheet-water-system.pdf>.

⁴⁵ EPA Office of Water, EPA Doc. No. 822-R-22-003, *INTERIM Drinking Water Health Advisory: Perfluorooctanoic Acid (PFOA) CASRN 335-67-1* at 2 (June 2022), available at <https://www.epa.gov/system/files/documents/2022-06/interim-pfoa-2022.pdf>; EPA Office of Water, EPA Doc. No. 822-R-22-004, *INTERIM Drinking Water Health Advisory: CASRN 1763-23-1* at 2 (June 2022), available at <https://www.epa.gov/system/files/documents/2022-06/interim-pfos-2022.pdf>.

⁴⁶ As EPA’s website explains, the Minimum Reporting Level (“MRL”) for Unregulated Contaminant Monitoring Rule (UCMR) 5 is the minimum quantitation level that, with 95 percent confidence, can be achieved by capable analysts at 75 percent or more of the laboratories using a specified analytical method. The MRLs in EPA’s chart are based on the UCMR 5 requirement to use EPA Method 533.

⁴⁷ EPA, *Drinking Water Health Advisories for PFAS Fact Sheet for Public Water Systems* at 2 (June 2022), available at <https://www.epa.gov/system/files/documents/2022-06/drinking-water-ha-pfas-factsheet-water-system.pdf>.

202. On September 6, 2022, EPA published a notice of proposed rulemaking seeking public comment on its plan to designate PFOS and PFOA as hazardous substances under CERCLA.⁴⁸

203. On January 6, 2023, the Defense Logistics Agency within the Department of Defense published a new Military Specification for “Fire Extinguishing Agent, Fluorine-Free Foam (F3) Liquid Concentrate, for Land-Based, Fresh Water Application,” MIL-PRF-32725 (“F3 MilSpec”) in accordance with § 332(a)(1) of the FY 2020 NDAA.⁴⁹ This new specification will govern fire extinguishing foams used by all Department of Defense organizations and will require such foams to test “non-detect” for PFAS. The specification further requires manufacturers to “certify in writing that PFAS has not intentionally been added to the concentrate.”

204. On March 29, 2023, EPA published a notice of proposed rulemaking seeking public comment on its plan to set maximum contaminant levels (“MCLs”)—legally mandated regulatory standards under the Safe Water Drinking Act—for six PFAS chemicals.⁵⁰ The proposed rule would set an MCL of 4.0 ppt for PFOA and PFOS, set a hazard index for the remaining four PFAS chemicals, and require public water systems to monitor for these PFAS, notify the public of the levels of these PFAS, and reduce the levels of these PFAS in drinking water if they exceed the proposed standards.

⁴⁸ See Designation of Perfluorooctanoic Acid (PFOA) and Perfluorooctanesulfonic Acid (PFOS) as CERCLA Hazardous Substances, 87 Fed. Reg. 54,415 (Sep. 6, 2022).

⁴⁹ Available on the Defense Logistics Agency’s website, Doc. ID: MIL-PRF-32725, https://quicksearch.dla.mil/qsDocDetails.aspx?ident_number=285047 (last visited Feb. 16, 2023).

⁵⁰ See PFAS National Primary Drinking Water Regulation Rulemaking, 88 Fed. Reg. 18,638 (Mar. 29, 2023).

H. State of Colorado’s Response to PFAS Contamination from AFFF

205. Between 2019 and 2020, the Colorado General Assembly passed a series of house and senate bills directed to regulating the use of AFFF and other PFAS-containing products:

A. House Bill 19-1279—which became the *Firefighting Foams and Personal Protective Equipment Control Act*—banned the use of AFFF containing PFAS chemicals for training or testing systems that suppress fire beginning August 2, 2019, as well as restricted the sale, manufacture, and distribution of AFFF within Colorado beginning August 2, 2021. This bill contains exemptions including for compliance with federal law requirements, but also imposes new disclosure requirements on manufacturers of AFFF products. It also established a timeline for the State government to take an inventory of PFAS-containing AFFF within the State by January 1, 2023.

B. Senate Bill 20-218 created a take back program for unspent AFFF containing PFAS, managed by the Colorado Department of Public Health and the Environment (“CDPHE”). As of March 2022, the CDPHE had arranged for the takeback of over 9,000 gallons of AFFF through this program.⁵¹ This bill also created a PFAS Cash Fund to address PFAS contamination and reduce exposure from PFAS chemicals through grants for sampling, emergency assistance, and infrastructure.

C. House Bill 20-1119 made amendments to the *Firefighting Foams and Personal Protective Equipment Control Act* including by prohibiting the use of PFAS-containing AFFF in certain aircraft hangars beginning January 1, 2023, including at airports that are designated by the FAA as a public-use airport. This bill also created a Certification of Registration Program for entities that use or store AFFF in Colorado.

⁵¹ See Complaint, *State of Colorado v. E. I. Du Point de Nemours et al.*, No. 2:22-cv-01195-RMG, Dkt. No. 1-2 (Dist. Court City of Denver filed Mar. 25, 2022).

206. In 2019, the CDPHE published an Action Plan for Toxic Firefighting Foam and Related Chemicals, which summarized how the department proposed to address the public risks posed by PFAS chemicals, in particular those found in AFFF.

207. In 2020, the CDPHE conducted a state-wide PFAS sampling project to investigate the potential impacts to drinking water from PFAS. The sampling included approximately half of the community public drinking water systems in the state servicing around three quarters of the population, as well as 15 firefighting districts and a range of groundwater sources and surface water sources for PFAS.⁵² All of the samples taken from Colorado lakes and rivers had some detectable level of PFAS chemicals.⁵³

208. Also in 2020, the Colorado Water Quality Control Commission within the CDPHE adopted PFAS Narrative Policy 20-1 that provides guidance on how to implement permit conditions addressing narrative surface water and groundwater standards, using numeric values for a subset of PFAS chemicals. For PFOA and PFOS the Commission established a translation level of 70 ng/L that applies to each compound individually and to the sum of the compounds plus additional compounds. This policy was also designed to aid with reviewing drinking water monitoring results for PFAS to evaluate the potential for human health effects. Adoption of this policy was part of the department's PFAS Action Plan and was designed to address PFAS exposure as a serious risk to public health.

209. In 2022, the Colorado General Assembly passed another bill addressing the use of PFAS chemicals in consumer products, House Bill 22-1345. This bill also contained provisions

⁵² Colorado Department of Public Health and the Environment, *2020 PFAS Sampling Effort Report* (2020), available at https://drive.google.com/file/d/1cy6UKhmf_Qn0G_b5I7xskl_SYZjCSRUq/view.

⁵³ See Complaint, *State of Colorado v. E. I. Du Point de Nemours et al.*, No. 2:22-cv-01195-RMG, Dkt. No. 1-2 (Dist. Court City of Denver filed Mar. 25, 2022).

addressing the use of PFAS-containing AFFF, including establishing a requirement that a person who uses AFFF is prohibited from releasing the firefighting foam into the environment and must fully contain the firefighting foam during its use. This bill also extended the effective date on the restriction on use of PFAS-containing AFFF at airport hangars until January 1, 2024.

I. AFFF Containing PFOS and PFOA Is Fungible and Commingled in the Groundwater

210. AFFF containing PFOS and/or PFOA, once it has been released to the environment, lacks characteristics that would enable identification of the company that manufactured that particular batch of AFFF or chemical feedstock.

211. A subsurface plume, even if it comes from a single location, such as a retention pond or fire training area, originates from mixed batches of AFFF and chemical feedstock coming from different manufacturers.

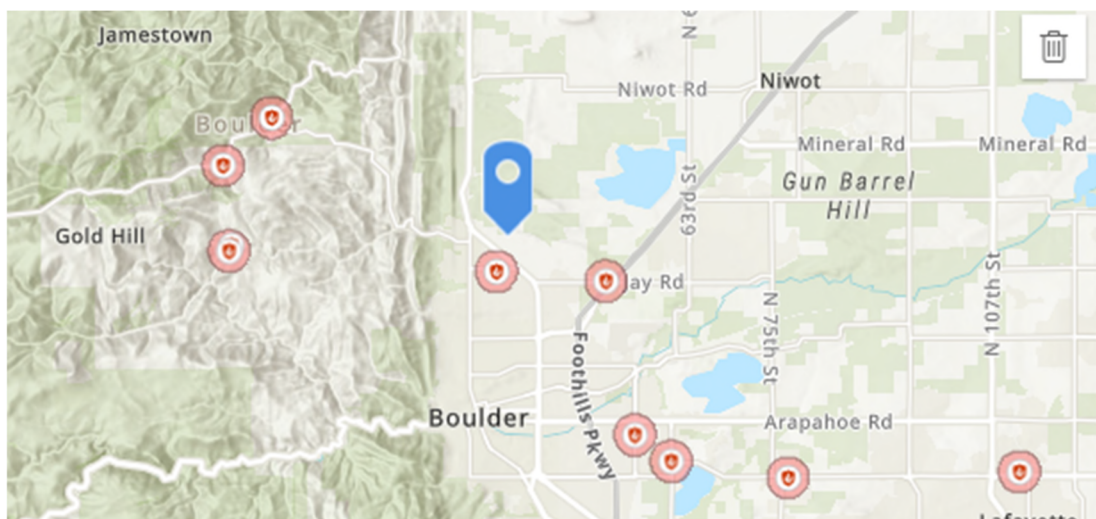
212. Because precise identification of the specific manufacturer of any given AFFF/Component Product that was a source of the PFAS found at a particular location is nearly impossible, given certain exceptions, Plaintiff must pursue all Defendants, jointly and severally.

213. Defendants are also jointly and severally liable because they conspired to conceal the true toxic nature of PFOS and PFOA, to profit from the use of AFFF/Component Products containing PFOS and PFOA, at Plaintiff's expense, and to attempt to avoid liability.

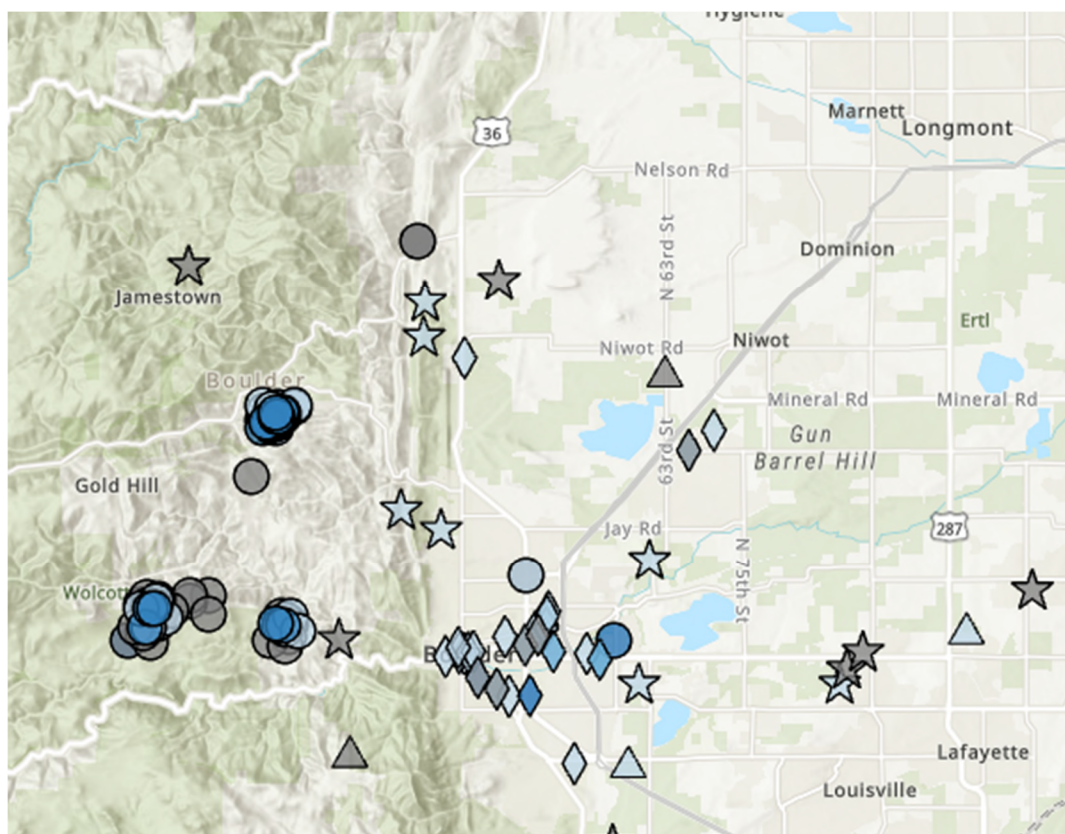
J. PFAS Contamination on Plaintiff's Property

214. PFOA and PFOS have been detected in varying amounts and at varying times in soil, sediment, groundwater, and surface water sampled in Boulder County. For example, testing of groundwater wells in the Sugar Loaf Fire District and Boulder Mountain Fire District has revealed PFAS levels exceeding EPA's health advisory limits. Investigation regarding the scope of PFAS contamination in the County is ongoing, including in connection with the use of AFFF at

fire training centers and other sites. In particular, Boulder County is coordinating testing of private wells in at risk zones within the County.



Boulder County Zones at Risk of PFA Contamination



Symbols in shades of blue indicate presence of PFAS documented by the CDPHE,
<https://cdphe.maps.arcgis.com/apps/MapSeries/index.html?appid=0fd782d4fe2f49ed967b682e10573834>

215. Boulder County has incurred and will continue to incur costs in connection with its ongoing investigation of PFAS contamination within Boulder County. The detection and/or presence of PFOA and PFOS, and the threat of further detection and/or presence of PFOA and PFOS, in Boulder County has resulted, and will continue to result, in harms to the County.

216. Continuing investigation is necessary to ascertain the full scope of PFAS contamination in Boulder County, including on Plaintiff's property. Defendants are liable for the costs of such continued investigation and abatement.

**V. MARKET SHARE LIABILITY, ALTERNATIVE LIABILITY,
CONCERT OF ACTION, AND ENTERPRISE LIABILITY**

217. Defendants in this action are manufacturers that control a substantial share of the market for AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors in the United States and are jointly responsible for the contamination of Plaintiff's property, including the soil, sediment, surface water, and groundwater within Boulder County. Market share liability attaches to all Defendants and the liability of each should be assigned according to its percentage of the market for AFFF/Component Products at issue in this Complaint.

218. Because PFAS is fungible, it is impossible to identify the exact Defendant who manufactured any given AFFF/Component Product containing PFOS, PFOA, and/or their chemical precursors found free in the air, soil, or groundwater, and each of these Defendants participated in a territory-wide and U.S. national market for AFFF/Component Products during the relevant time.

219. Concert of action liability attaches to all Defendants, each of which participated in a common plan to commit the torts alleged herein and each of which acted tortuously in pursuance of the common plan to knowingly manufacture and sell inherently dangerous AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors.

220. Enterprise liability attaches to all the named Defendants for casting defective products into the stream of commerce.

VI. CAUSES OF ACTION

COUNT ONE — DEFECTIVE DESIGN

221. Plaintiff adopts, realleges, and incorporates the allegations in paragraphs 1 through 220 above, and further alleges the following:

222. As manufacturers of AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors, Defendants owed a duty to all persons and entities whom their products might foreseeably harm, including Plaintiff, and a duty not to market any product which is unreasonably dangerous in design for its reasonably anticipated use.

223. Defendants' AFFF/Component Products were unreasonably dangerous for their reasonably anticipated uses for the following reasons:

- A. PFAS cause extensive groundwater contamination, even when used in their foreseeable and intended manner;
- B. Even at extremely low levels, PFAS render drinking water unfit for consumption;
- C. PFAS pose significant threats to public health; and
- D. PFAS create real and potential environmental damage.

224. Defendants knew of these risks and failed to use reasonable care in the design of their AFFF/Component Products.

225. AFFF containing PFOS, PFOA, and/or their chemical precursors poses a greater danger to the environment and to human health than would be expected by ordinary persons such as Plaintiff and the general public.

226. At all times, Defendants were capable of making AFFF/Component Products that did not contain PFOS, PFOA, and/or their chemical precursors. Thus, reasonable alternative designs existed which were capable of preventing Plaintiff's injuries.

227. The risks posed by AFFF containing PFOS, PFOA, and/or their chemical precursors far outweigh the products' utility as a flame-control product.

228. The likelihood that Defendants' AFFF/Component Products would be spilled, discharged, disposed of, or released into the environment and cause harmful and adverse impacts to the environment and human health, far outweighed any burden on Defendants to adopt an alternative design, and outweighed the adverse effect, if any, of such alternative design on the utility of the product.

229. As a direct and proximate result of Defendants' unreasonably dangerous design, manufacture, and sale of AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors, Plaintiff has incurred and will continue to incur costs and expenses related to the past, present, and future investigation, sampling, testing, and assessment of the extent of PFAS contamination within Boulder County, as well as costs and expenses related to the treatment and remediation. Defendants knew that it was substantially certain that their acts and omissions described above would cause significant injury and damage to Plaintiff, including by preventing Plaintiff and its citizens from fully utilizing Plaintiff's property, including its water rights. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with conscious and/or reckless disregard for Plaintiff's health and safety, and/or property rights.

**COUNT TWO —
FAILURE TO WARN**

230. Plaintiff adopts, realleges, and incorporates the allegations in paragraphs 1 through 229 above, and further allege the following:

231. As manufacturers of AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors, Defendants had a duty to provide adequate warnings of the risks of these products to all persons whom its product might foreseeably harm, including Plaintiff and the public.

232. Defendants' AFFF/Component Products were unreasonably dangerous for its reasonably anticipated uses for the following reasons:

A. PFAS causes extensive groundwater contamination, even when used in their foreseeable and intended manner;

B. Even at extremely low levels, PFAS render drinking water unfit for consumption;

C. PFAS poses significant threats to public health; and

D. PFAS create real and potential environmental damage.

233. Defendants knew of the health and environmental risks associated with their AFFF/Component Products and failed to provide a warning that would lead an ordinary reasonable user or handler of a product to contemplate the dangers associated with their products or an instruction that would have avoided Plaintiff's injuries.

234. Despite Defendants' knowledge of the environmental and human health hazards associated with the use and/or disposal of their AFFF/Component Products in the vicinity of drinking water supplies, including PFAS contamination of public drinking supplies and private

wells, Defendants failed to issue any warnings, instructions, recalls, or advice regarding their AFFF/Component Products to Plaintiff, other governmental agencies, or the public.

235. As a direct and proximate result of Defendants' failure to warn, Plaintiff has suffered, and will continue to suffer, damage to its property from PFAS contamination requiring investigation, remediation, and monitoring costs, including the costs of replacing and cleaning equipment contaminated with AFFF.

236. Defendants knew that it was substantially certain that their acts and omissions described above would result in damage to Plaintiff's property from PFAS contamination. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with conscious and/or reckless disregard for Plaintiff's health and safety, and/or property rights.

COUNT THREE — NEGLIGENCE

237. Plaintiff adopts, realleges, and incorporates the allegations in paragraphs 1 through 236 above, and further alleges the following:

238. As manufacturers of AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors, Defendants owed a duty to Plaintiff and to all persons whom its products might foreseeably harm and to exercise due care in the formulation, manufacture, sale, labeling, warning, and use of AFFF.

239. Defendants owed a duty to Plaintiff to act reasonably and not place inherently dangerous AFFF/Component Products into the marketplace when its release into the air, soil, and water was imminent and certain.

240. Defendants knew or should have known that PFAS were leaching into surface and ground water from AFFF used for firefighting training and emergency response activities.

241. Defendants knew or should have known that PFAS are highly soluble in water, highly mobile, extremely persistent in the environment, and highly likely to become a persistent pollutant if released into the environment.

242. Defendants knew or should have known that the manner in which they were designing, manufacturing, marketing, distributing, and selling their AFFF/Component Products would result in contamination of Plaintiff's property with PFAS.

243. Despite the fact that Defendants knew or should have known that PFAS are toxic, can contaminate the environment, and are carcinogenic, Defendants negligently:

A. designed, manufactured, formulated, handled, labeled, instructed, controlled, marketed, promoted, and/or sold AFFF/Component Products containing PFOS, PFOA, and/or their chemical precursors;

B. issued deficient instructions on how their AFFF/Component Products should be used and disposed of, thereby permitting PFAS to contaminate soils, sediment, groundwater, and surface water in and around Boulder County;

C. failed to recall and/or warn the users of their AFFF/Component Products of the dangers of groundwater contamination as a result of standard use and disposal of their products;

D. failed and refused to issue the appropriate warning and/or recalls to the users of their AFFF/Component Products; and

E. failing to take reasonable, adequate, and sufficient steps or actions to eliminate, correct, or remedy any contamination after it occurred.

244. The magnitude of the burden on the Defendants to guard against this foreseeable harm to Plaintiff was minimal, as the practical consequences of placing this burden on the

Defendants amounted to a burden to provide adequate instructions, proper labeling, and sufficient warnings about their AFFF/Component Products.

245. As manufacturers, Defendants were in the best position to provide adequate instructions, proper labeling, and sufficient warnings about their AFFF/Component Products, and to take steps to eliminate, correct, or remedy any contamination they caused.

246. As a direct and proximate result of Defendants' negligence, Plaintiff has suffered, and will continue to suffer, damage to its property from PFAS contamination requiring investigation, remediation, and monitoring costs, including the costs of replacing and cleaning equipment contaminated with AFFF.

247. Defendants knew that it was substantially certain that their acts and omissions described above would result in damage to Plaintiff's property from PFAS contamination. Defendants committed each of the above-described acts and omissions knowingly, willfully, and/or with fraud, oppression, or malice, and with conscious and/or reckless disregard for Plaintiff's health and safety, and/or property rights.

**COUNT FOUR —
VIOLATIONS OF THE COLORADO UNIFORM FRAUDULENT TRANSFER ACT
(DUPONT DEFENDANTS)**

248. Plaintiff adopts, realleges, and incorporates the allegations in paragraphs 1 through 247 above, and further alleges the following:

249. Plaintiff seeks relief under the Colorado Uniform Fraudulent Transfer Act, Colo. Rev. Stat. § 38-8-101, *et seq.* ("CUFTA"). Under CUFTA:

- (1) A transfer made or obligation incurred by a debtor is fraudulent as to a creditor, whether the creditor's claim arose before or after the transfer was made or the obligation was incurred, if the debtor made the transfer or incurred the obligation:
 - (a) With actual intent to hinder, delay, or defraud any creditor of the debtor; or

- (b) Without receiving a reasonably equivalent value in exchange for the transfer or obligation, and the debtor:
 - (I) Was engaged or was about to engage in a business or a transaction for which the remaining assets of the debtor were unreasonably small in relation to the business or transaction; or
 - (II) Intended to incur, or believed or reasonably should have believed that he would incur, debts beyond his ability to pay as they became due. (§ 38-8-105 C.R.S.).

250. Boulder County is a “Creditor” holding “Claims” against the DuPont Defendants as those terms are defined in § 38-8-102 C.R.S.

251. Through the Chemours Spinoff, Old DuPont and Chemours Co. (a) have acted with actual intent to hinder, delay, and defraud Plaintiff and other parties, (b) have caused Chemours Co. to make the Transfers and assume the Assumed Liabilities without receiving a reasonably equivalent value in exchange therefor when (i) Chemours Co. engaged or was about to engage in a business or a transaction for which the remaining assets of Chemours Co. were unreasonably small in relation to the business, and/or (ii) they intended Chemours Co. to incur, or believed or reasonably should have believed that Chemours Co. would incur, debts beyond its ability to pay as they became due.

252. Through their effectuation of the Chemours Spin-off in July 2015, Chemours Co. and Old DuPont caused Chemours Co. to transfer valuable assets to Old DuPont, including but not limited to the \$3.9 billion dividend (the “Transfers”), while simultaneously assuming significant liabilities (the “Assumed Liabilities”).

253. The Transfers and Assumed Liabilities were made for the benefit of DuPont.

254. At the time that the Transfers were made and the Liabilities were assumed, and until the spin-off was complete, Old DuPont was in a position to, and in fact did, control and dominate Chemours Co.

255. Chemours Co. and Old DuPont made the Transfers and incurred the Assumed Liabilities with the actual intent to hinder, delay, and defraud the creditors or future creditors of Chemours Co.

256. Upon information and belief, Chemours Co. did not receive a reasonably equivalent value in exchange for the Transfer and Assumed Liabilities.

257. Plaintiff has been harmed as a result of the conduct of Chemours Co. and Old DuPont.

258. Plaintiff is entitled to avoid the Transfers, to recover property or value transferred from Chemours Co. to Old DuPont, or to hold Old DuPont jointly and severally liable for any damages or other remedies against Chemours Co. that may be awarded by the Court or jury.

259. The DuPont Defendants have further acted with actual intent to hinder, delay, and defraud Plaintiff and other parties in connection with the Post-Merger Transactions.

260. As part of the Post-Merger Transactions, Old DuPont transferred valuable assets to Corteva, Inc. and/or New DuPont (f/k/a DowDuPont) without receiving a reasonably equivalent value in exchange for the transfer or obligation, when (i) it was engaged or was about to engage in a business or a transaction for which the remaining assets of Old DuPont were unreasonably small in relation to the business; or (ii) the DuPont Defendants intended for Old DuPont to incur, or believed or reasonably should have believed that Old DuPont would incur, debts beyond its ability to pay as they became due.

261. The Post-Merger Transfers were made for the benefit of Corteva, Inc. and New DuPont.

262. Plaintiff has been harmed as a result of the Post-Merger Transactions.

263. Plaintiff is entitled to avoid the Post-Merger Transactions, to recover property or value transferred from Old Dupont to New DuPont and/or Corteva, Inc., or to hold New DuPont and Corteva, Inc. jointly and severally liable for any damages or other remedies against Old DuPont that may be awarded by the Court or jury.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff, the Board of County Commissioners of the County of Boulder, demands judgment against Defendants, and each of them, jointly and severally, and requests the following relief from the Court:

A. an award of compensatory damages according to proof including, but not limited to:

i. costs and expenses related to the past, present, and future investigation, sampling, testing, and assessment of the extent of PFAS contamination within Boulder County;

ii. costs and expenses related to past, present, and future treatment and remediation of PFAS contamination within Boulder County; and

iii. costs and expenses related to past, present, and future installation and maintenance of filtration systems to assess and evaluate PFAS within Boulder County;

B. an order declaring that the assumption by Chemours Co. of the Assumed Liabilities did not relieve Old DuPont of its liability for the Assumed Liabilities to any extent;

C. an order (i) compelling the return by Corteva, Inc. and New DuPont of all assets and other value received by them directly or indirectly from Old DuPont in the Post-

Merger Transactions, or (ii) holding Corteva, Inc. and New DuPont jointly and severally liable with Old DuPont for all claims of Plaintiff against Old DuPont.

- D. an award of consequential damages;
 - E. an award of attorney fees and costs, as provided by law;
 - F. an award of pre-judgment and post-judgment interest as provided by law;
- and
- G. an order for all such other relief the Court deems just and proper.

DEMAND FOR JURY TRIAL

Plaintiff, THE BOARD OF COUNTY COMMISSIONERS OF THE COUNTY OF BOULDER, demands a trial by jury of all issues so triable as a matter of right.

Dated: May 31, 2023

Respectfully submitted,

BOULDER COUNTY ATTORNEY

KELLER ROHRBACK L.L.P.

By /s/ Ben Pearlman

Ben Pearlman

County Attorney

P.O. Box 471

Boulder, CO 80306

Telephone: (303) 441-4976

bpearlman@bouldercounty.org

By /s/ Gretchen Freeman Cappio

Gretchen Freeman Cappio

Daniel Mensher

Alison S. Gaffney

Kathryn McCallum

1201 Third Avenue, Suite 3200

Seattle, WA 98101-3052

Telephone: (206) 623-1900

Fax (206) 623-3384

gcappio@kellerrohrback.com

dmensher@kellerrohrback.com

agaffney@kellerrohrback.com

kmccallum@kellerrohrback.com

Attorneys for Plaintiff the Board of County Commissioners of the County of Boulder